

Wigglesworth (Ed.,)



WHY SHOULD WE USE THE METRIC SYSTEM?

BY EDWARD WIGGLESWORTH, M.D.

MORALLY; *as humanitarians* desiring the greatest good of the greatest number, whose God-given best it is to act well our part in life, thus promoting universal progress and harmony. Even should our selfish ends not be furthered in the least by the adoption of the international decimal system we should yet gladly adopt it if the nation as a whole is to be benefitted by its introduction, and of this there is no doubt. The most virulently conservative exponents of the vis inertiae of egotism admit that "in commerce, where we are dealing with large quantities, and where long columns of figures, whether expressing weights, measures, or money, must be added up, and the amount multiplied, divided, or otherwise treated as an arithmetical factor, the metric system is a perfect marvel of elegance and simplicity."

INTELLECTUALLY; *as broad-minded friends of progress.* It is the paradox of education that we must build from above downwards. Important measures originate among the upper classes, which alone are fitted to comprehend the ultimate results of these. The benevolent despot may even educate at the point of the bayonet, and that at once, raising his vassals by intellectual platforms; the genius of republican institutions demands the gradual elevation of the masses by wheedling them up one intellectual step after another with the proffered bait of immediate selfish advantage. The independent American of the lower class loses several trains on the railroad of progress, while being persuaded of the inferior celerity of pedestrianism. John Quincy Adams, even in his day, spoke of

the metric system as "the greatest invention of human ingenuity since that of printing." Charles Sumner characterized it as "among the choicest possessions of an advanced civilization."

SOCIALLY; *as patriotic American citizens*; for, in spite of popular education, illiteracy is increasing faster than our population. It has been calculated by large committees of our ablest teachers that the complete introduction of the metric system will save a full year of the school-life of every child, and this year thus saved would be enough to turn the scale. In a country depending for the safety of its free institutions upon the education of the people this fact is of vital importance. The introduction of this system would be desirable, if only as the most rapid method of obtaining the most correct results even were we subsequently to change the denomination of these results back into the old denominations.

PRACTICALLY, *as economical, common-sense men*, the system being the most accurate, consistent, and convenient one known; simpler than others as our money is simpler than pounds, shillings, and pence; multiplying and dividing by a mere shifting of the decimal point to the right or left; giving finer subdivisions than other systems, and saving money in business to such an extent that competent authorities computed that the London and Northwestern Railway alone would annually save £10,000 sterling by the use, in all its computations, of the metric instead of the old system. How vast, then, would be the saving in the entire business of the country! In 1860 the foreign business of the United States equalled \$762,000,000. Of this, \$700,000,000 was with nations using the metric system, and that, too, before Germany had adopted it.

There are no tables, scales, or complicated relations, the meter measuring every possible dimension, the liter every capacity, the gram every weight. In the old systemless system of many and various units the multiple might be 20, 3, 8, 12, $5\frac{1}{2}$, $272\frac{1}{4}$, etc. Even single weights varied among themselves, as *e.g.* long and short avoirdupois weight.

So with measures of capacity. A barrel of fish is 30 gallons;

one of ale, $31\frac{1}{2}$; one of cider, 32; one of beer, 27; etc. Bread is sold by troy weight, butter by avoirdupois. Drug-gists buy by one and sell by another and a different table of weights. With the exception of measurements of time, which are unalterable, being natural divisions fixed by the revolutions of the earth, there is none to which this system is not applicable, whether of weight, length, surface, solid contents, angles, values, intensities, or forces.

Philosophically; as accepting the inevitable, for the metric system is sure to come, and we shall never be better prepared to make the change than now. We must use it as a means of education, not as a result to which we are to grow by degrees. Every civilized nation has adopted it, except Russia, which has been delayed only by her war, and England, which never makes any change until forced. She was four hundred years behind the continent in adopting our present arithmetic! Yet, even in England it is legalized, and makes annual progress in the British Parliament. Our scientific men all advocate it. Our Congress has legalized it. Large manufacturers and merchants in foreign trade use it more than is generally known. Civil engineers, architects, and chemists employ it. It is exclusively used by the U. S. Coast Survey and the U. S. Marine Hospital Service.

The American Medical Association and the medical societies of the leading States have recommended it most cordially by resolutions, and, finally, should we delay long, commerce with, and immigration from, foreign countries will force it upon us. Moreover, it is practically indestructible, whereas the standard weights of Great Britain were destroyed by fire in 1834. There are twenty-seven standards of the metric system in different countries, the United States possessing one. These are exactly alike, from a single casting of ten parts of iridium and ninety of platinum. Nothing short of a cosmic convulsion could destroy all of these at once.

PROFESSIONALLY; as physicians; because this system most nearly approximates to a perfect one, embodying, as it does, the most careful and delicate work of the International Metric Com-

mission, composed of scientific men from all countries. Because it is *international*; and medicine is as cosmopolitan as human nature itself.

Because of its great *convenience* in writing and compounding prescriptions, in dividing doses and in computing quantities required during given times. Because of its *safety* due to its *uniformity* and *simplicity*. It may be learned in five minutes. In complexity there is always danger and the resemblance of the signs of the scruple, drachm and ounce has more than once proved fatal to human life. The metric system dispenses with the signs of the quantities, employs Arabic figures instead of Roman numerals and assures the physician of more competent service because from more educated pharmacists, such being always the first to adopt it. It is decimal, and a perpendicular line instead of the decimal points obviates any possibility of error from this source. It is allied to the change already made by Americans from pounds, shillings and pence to dollars and cents.

Because of its *delicacy* and *accuracy* for the chemist and the pharmacist, and here the beauty of the system is especially apparent, for it provides denominations of weights applicable to the smallest quantity which the physician can prescribe, the old grain being by far too large and coarse a unit for modern medicine.

Moreover, the English and American graduates are both in use in this country, and yet are not alike. There is a difference of eighteen grains in the weights of their fluid ounces. Then, too, if *f* is omitted before the ounce symbol either the graduate or the troy ounce may be used.

Finally, because it deals preferably with weights alone, *while admitting the use, if desired, of both weights and measures as at present.*